PINK BOLLWORM

PROGRAM PROFILE

Goal	To prevent infestations in the San Joaquin Valley of California, and provide risk based area wide management of PBW cooperatively with industry.
Enabling Legislation	7 USC 145; PL 65-64.
Economic Significance	The pink bollworm is capable of destroying a cotton crop. Losses in the Imperial Valley of California due to this pest exceeded $250 million, or about $300 per acre, each year between 1966 and 1980.
Principal Approach And Methods Used to Achieve Goals	The program is a cooperative effort involving survey, regulatory, and control activities. Pheromone sex lure traps are placed over extensive cotton acreage. In the San Joaquin Valley, sterile pink bollworms are released to effectively eliminate reproduction. Cultural practices (crop rotation, stalk destruction, alternate planting dates, and irrigation restrictions) are also used to control the pest population. California enforces plow-down and planting regulations. APHIS enforces the national quarantine (surveys and regulatory activities) and manages the sterile moth rearing facility in Phoenix, Arizona, and the moth releases in the San Joaquin Valley, California.
History	The program began in 1917, when the pink bollworm was first found in the southern United States. For over 40 years, the pest did little to expand its area of infestation. In 1965, this cotton pest began to spread through southern California, and in 1967, it moved into the San Joaquin Valley. Since then, the seasonal release of sterile moths have prevented the pink bollworm from becoming established in the Valley. Elsewhere, infestations occurred in Arizona, New Mexico, Nevada, Texas, and parts of Arkansas, Oklahoma, Louisiana, Mississippi, and Missouri.

State and Local Cooperation The San Joaquin Valley sterile moth program is conducted in cooperation with the State of California and cotton growers in that area. California contributes about 75 percent of the total program cost.

Involvement of Other Agencies State departments of agriculture, State land grant universities, State and Federal agencies, and industry.

RESOURCE DATA

----------Obligations----------

	Direct	Reimbursement	User Fees	Staff-Years
FY 1996	$1,034,013	--	--	10
FY 1997	$1,033,072	--	--	21
FY 1998	$1,017,176	--	--	19
FY 1999 (est.)	$1,048,000	--	--	19
FY 2000 (est.)	$1,048,000	--	--	18

	APHIS	Coop	Total	CCC	Contingency Fund
Cum.	$115,224,245	$130,384,952	$245,609,197		

RECENT ACCOMPLISHMENTS

Sterile Release Program The cooperative PBW sterile release program continued to protect cotton in the San Joaquin Valley (SJV), California. In FY 1998, the program trapped 127 non-sterile moths, compared to 356 in 1997. APHIS produced approximately 1.137 billion sterile moths at its rearing facility in Phoenix, Arizona for subsequent release. This was approximately the same amount produced in FY 1997. For the second year in a row, however, the program improved rearing efficiency and was able to maintain production using less diet material which reduced costs. Of the 1.137 billion moths, the program released 951 million sterile moths in the San Joaquin Valley (compared to 1.038 billion in FY 1997)

and 51 million moths in the Imperial Valley as well as 132 million in the Palo Verde Valley. In addition, the rearing facility provided two million sterile moths to several research laboratories across the country.

Quarantine Area

In FY 1998, Poinsett County, Arkansas was removed from quarantine based on two years of negative trapping. A new area in Craighead County, Arkansas was added under quarantine because of a single moth caught early in the season. This area represents the only quarantine area in the entire mid-South.

Bt Cotton Technique

In FY 1998, APHIS followed up on a control technique that proved successful in the 3-year PBW demonstration project in the Imperial/Coachella Valley, which concluded in FY 1997. The technique involved the use of genetically-engineered cotton-otherwise known as Bt cotton-which contains a toxin that kills PBW and other moth pests when they feed on cotton. APHIS is using its findings to improve program operations and to plan for a proposed area-wide suppression effort for the lower Colorado River Basin. Timeliness is critical in this effort because Bt cotton as a major program component is subject to pest resistance over time.

Cooperative Efforts

The cooperative agreement with the University of Minnesota is in its final stages. This agreement involves conducting a risk assessment to determine whether or not the PBW has reached its economic and biological range. Preliminary reports indicate that the pest will survive throughout most of the mid-South and southeastern United States and recommends regular monitoring to detect any new infestations. A final report, which is expected in the spring of 1999, will determine to survival extent.

APHIS continued to work with collaborators and cooperators in universities, industry, and ARS to develop a biologically-based PBW management system. The program believes it can "functionally eradicate" this pest at a maximum annual cost of $50-60 per acre in a 3-year program with drastically reduced costs possible in the third year and with minimum maintenance thereafter.